

THE PATENTS ACT, 1970

IT IS HEREBY CERTIFIED THAT, the annex is the true copy of application and provisional specification filed on 20.09.2002 in respect of patent application no. 833/MUM/2002 of Videocon International Limited of Auto cars compound Adalat Road, Aurangabad 431 005, Maharashtra, India, an Indian company.

This certificate is issued under the powers vested in me under Section 147(1) of the Patents Act, 1970.

Dated this 2nd day of July 2003


(N. K. GARG)

ASST. CONTROLLER OF PATENTS & DESIGNS

FORM-1

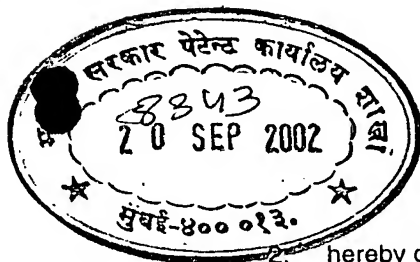
THE PATENTS ACT, 1970

(39 OF 1970)

APPLICATION FOR GRANT OF A PATENT

(See sections 5(2), 7, 54 and 135 and rule 33A)

1. We, VIDEOCON INTERNATIONAL LIMITED of Auto Cars Compound,
Adalat Road, Aurangabad 431 005, Maharashtra, India, an
Indian Company,



hereby declare :-

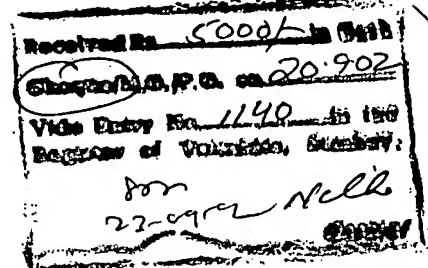
(a) that we are in possession is an invention titled AIR CONDITIONERS

(b) that the Provisional/Complete specification relating to this invention is filed with this application

(c) that there is no lawful ground of objection to the grant of a patent to us.

3. further declare that the inventor(s) for the said invention is/are :

NIPUN GOPALDAS GUPTA
of Videocon International Ltd.,
Auto Cars Compound,
Adalat Road, Aurangabad 431 005,
Maharashtra, India
an Indian National



833 | मुंबई | 2002 | 20 SEP 2002
MUM

833/Mum/2002

20.9.2002

ORIGINAL

4. I/We, claim the priority from the application(s) filed in convention countries, particulars of which are as follows :

(a) [Country]

(b) [Appln.No.]

(c) [Date of Appln.]

N . A .

(d) [Applicant in Convention Country]

(e) [Title]

5. I/We state that the said invention is an improvement in or modification of the invention, the particulars of which are as follows and of which I/We are the applicant/patentee:-

(a) Application No.

(b) Date of application

N . A .

6. I/We state that the application is divided out of my/our application, the particulars of which are given below and pray that this application deemed to have been filed on _____ date under section 16 of the Act.

(a) Application No.

(b) Date of filing of provisional specification :

N . A .

and date of filing of complete specification :

7. That ~~I am~~ I/We are the assignee or legal representative of the true and first inventors.

8. That ~~my~~ ^{XY}our address for service in India is as follows : **R.K. DEWAN & COMPANY**, Trade Marks & Patents Attorneys, 78, Podar Chambers, S.A.Brelvi Road, Fort, Mumbai 400 001, Maharashtra, India, Tel. (91) 22-2661662/2663002, Telefacsimile number (91) 22-2650159, Email>rkdeewan@vsnl.com.



Following declaration was given by the inventor(s) ~~or applicant(s) or~~
~~inventor(s) or~~

I/~~We~~ the true and first inventors for this invention ~~or the applicant(s) or the inventor(s)~~
~~or~~ declare that the applicant(s) her in is/ar my/~~our~~ assignee or legal
representative :

Nipun Singh L
(MR NIPUN GOPALDAS GUPTA).

10. That to the best of my/our knowledge, information and belief the fact and matters
stated herein are correct and that there is no lawful ground of objection to the
grant of patent to me/us on this application



11. Following are the attachment with the application :

(a) Provisional ~~Complete~~ ^{XXXXXXXX} specification (3 copies)

(b) Drawings ~~(3 Copies)~~ ^{XXXXXXXX}

(c) ~~Priority document(s)~~ ^{XXXXXXXXXXXXXX}

(d) Stat ment of Undertaking on FORM-3

(e) Power of authority

(f)

(g)

(h)

(i) Fee Rs. ----- In cash/cheque/bank draft bearing No.

date

on

Bank

X/We request that a patent may be granted to me/us ^{XY} for the said invention.

Dated this 19th day of September 2002
for VIDEOCON INTERNATIONAL LTD.,

Signature :

Name : MR NIPUN GOPALDAS GUPTA .

To :

The Controller of Patents

The Patent Office

at MUMBAI



FORM - 2

THE PATENTS ACT, 1970

PROVISIONAL

Specification

SECTION - 10

AIR CONDITIONERS

VIDEOCON INTERNATIONAL LIMITED,

of Auto Cars Compound, Adalat Road, Aurangabad 431 005,

Maharashtra, India,

an Indian Company

THE FOLLOWING SPECIFICATION DESCRIBES

THE NATURE OF THIS INVENTION:-

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MUM

20 SEP 2002

ORIGINAL

This invention relates to air conditioners and typically to air conditioners known as split air conditioners having an indoor unit and an outdoor unit cooperating with each other via ducting and piping.

A major concern in air conditioning system is the running cost and there is constant endeavor to conserve energy.

Air Conditioners can be broadly termed as devices which facilitate heat exchange from/to a closed environment/space.

Traditionally low tonnage systems are air-cooled and high tonnage systems are water-cooled i.e. the use of air/water to cool the refrigerant is already an established concept.

In the case of low tonnage systems a Reciprocating/ Rotary Compressor is used, typically where the Pressure of Suction and Discharge is in equilibrium at 75/300 PSI respectively.

For the Refrigerant R-22 the ideal performance is derived at 69/215 psi suction/discharge pressure which is not achievable in air cooled systems.

Such a system if engineered would be more efficient than the traditional systems and also provide saving in energy consumption.

An object of this invention is to provide an air conditioning system which will give a suction pressure of 65 to 70 psi and discharge pressure of 210 – 225 psi.

Another object of this invention is to provide an air conditioning system in which there is considerable power conservation.

The objects of this invention are achieved by placing the condensor unit of the split air conditioner in a tray and allowing the condensate water which is collected in the normal dehumidification process of the system by the evaporator to flow into the tray into which the condensor unit[the outdoor unit] is located.

Condensate water collected in the tray can be used for cooling the hot compressed fluid passing through the coils. This can be achieved in several methods. For instance a small pump can be installed which can draw water from the tray and lift it over the condensor coils for sprinkling. The water after sprinkling falls back into the tray. The condensate water which is at temperature lower than the ambient causes immediate drop in the temperature of the refrigerant fluid in the coils. Another method of using the condensate water is to dip one or more coils of the condensor into the water borne in the tray.

The cooling of the condensor using waste condensate water can be in addition to or an adjuvant to air cooling.

Typically, water is made to fill in the base tray upto the first to hair pin bends of the coils.

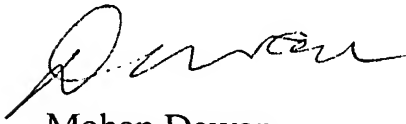
The results obtainable from using the features of this invention at conditions of 35 degrees celsius ambient are typically as under :

1. SUCTION PRESSURE 65PSI
 2. DISCHARGE PRESSURE 240 PSI
 3. COMPRESSOR CURRENT 6.5 A AGAINST STD 9.5 A
 4. TOTAL CURRENT OF SYSTEM 8A
 5. TOTAL SYSTEM WATTAGE 1650 AGAINST 1950 STD
 6. TRIP RATIO(COMPRESSOR ON TIME 55% AGAINST 60% STD
-
1. The system of this invention delivers significantly improved cooling and an accelerated cooling rate and a capacity of 100% of 18000 BTU + PLUS
 2. The system of this invention saves over 20% in power consumption.

While the present invention has been described herein with reference to a specific embodiment thereof, it is contemplated that the present invention is not limited thereby and various changes and modifications may be made therein for those skilled in the art without departing from the scope of the invention. For instance, further improvements are possible by varying capillary length and bore and providing an accumulator to the liquid line which is typically dipped in the

condensate water bearing tray and be reducing evaporational losses from the tray.

Dated this 19th day of September, 2002

A handwritten signature in black ink, appearing to read 'Mohan Dewan', written in a cursive style.

Mohan Dewan

Of R K Dewan & Co

Applicants' Patent Attorney.

